



AIRS Data Animations

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Motivation

- There are several objectives for data animation
 - » Education Outreach
 - » Understanding physical processes and feedback
 - » Scientific validation

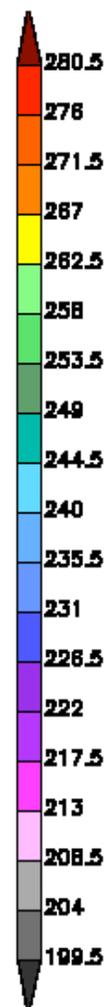
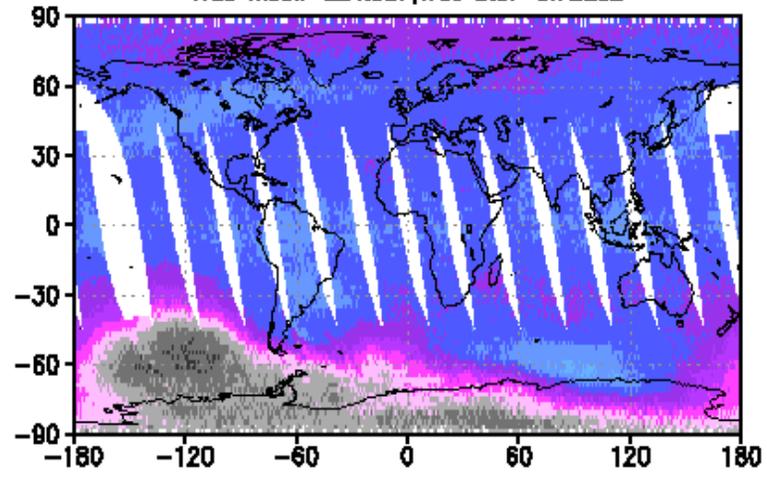


Simple animations

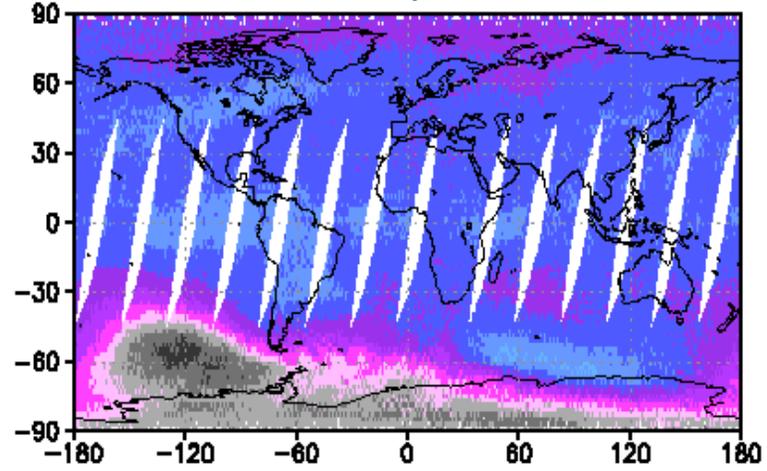
- Used mostly for education and for some process studies
- Need to think upfront the type of data you want animate.
- Animation is derived from a series of images
- These images should be produced daily, weekly or monthly
- Include vertical x-sections and fields

sep. 7 2003, Temperature (9.512mb) Retrieval

Ascending, sample=51095
True mean=224.387, True stdv=8.72202

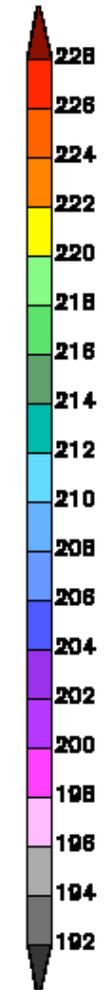
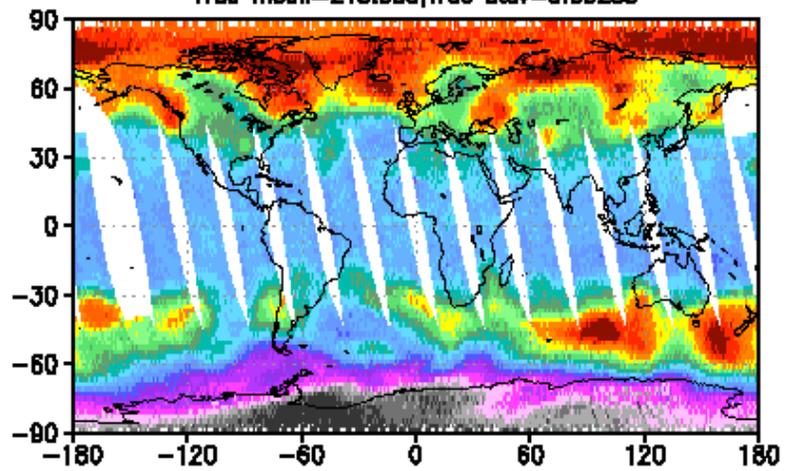


Descending sample=53020
True mean=224.657, True stdv=8.36358

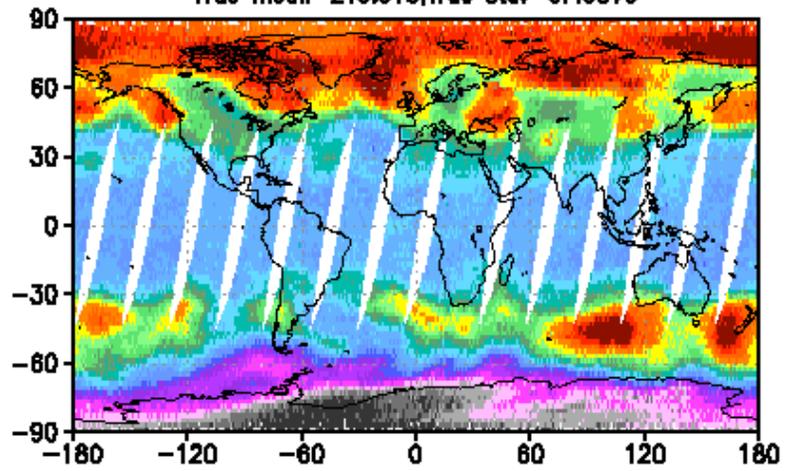


sep. 7 2003, Temperature (160.496mb) Retrieval

Ascending, sample=51095
True mean=213.039, True stdv=9.60255

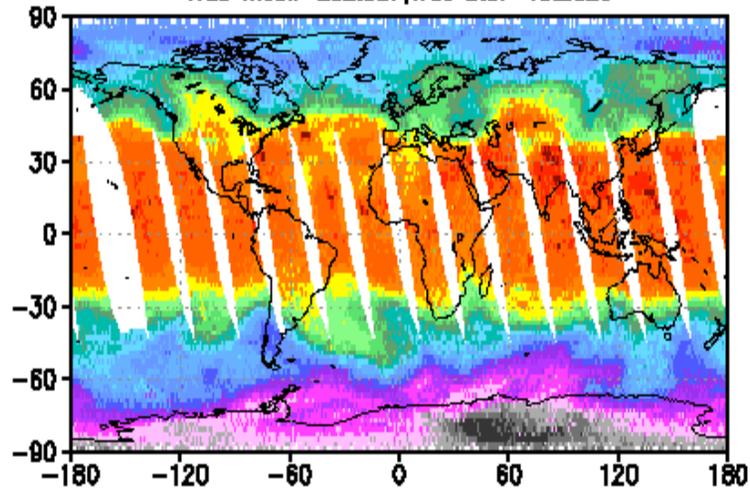


Descending sample=53020
True mean=213.315, True stdv=9.45579

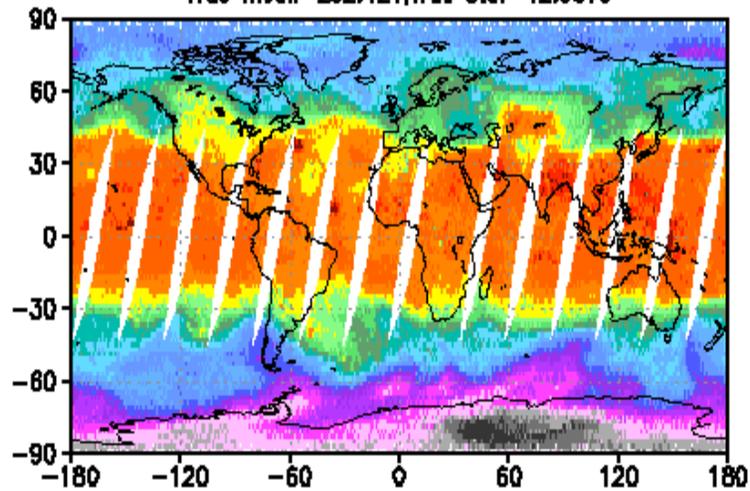


sep. 7 2003, Temperature (496.63mb) Retrieval

Ascending sample=51095
True mean=252.337, True stdv=13.2026

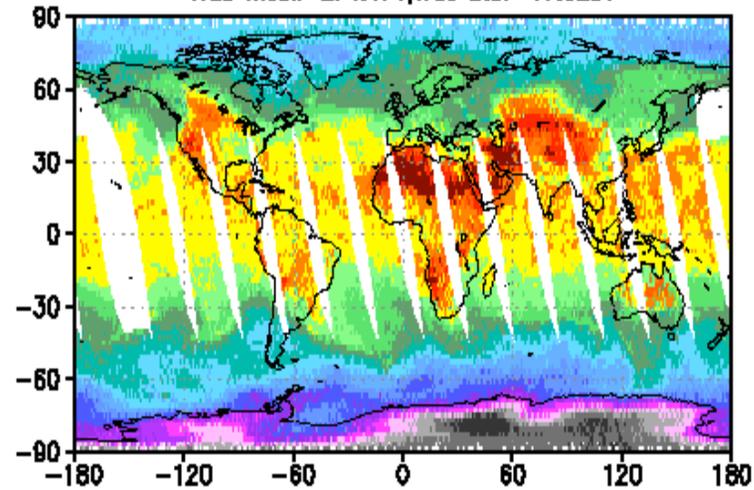


Descending sample=53020
True mean=252.421, True stdv=12.9375

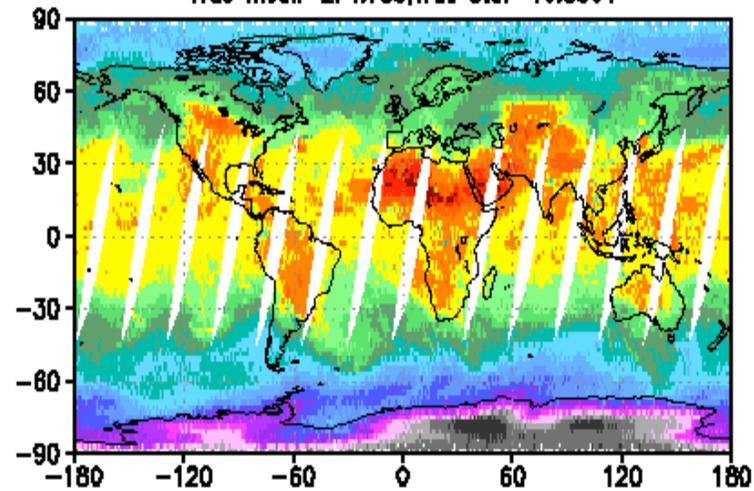


sep. 7 2003, Temperature (852.788mb) Retrieval

Ascending sample=51095
True mean=274.471, True stdv=17.8281

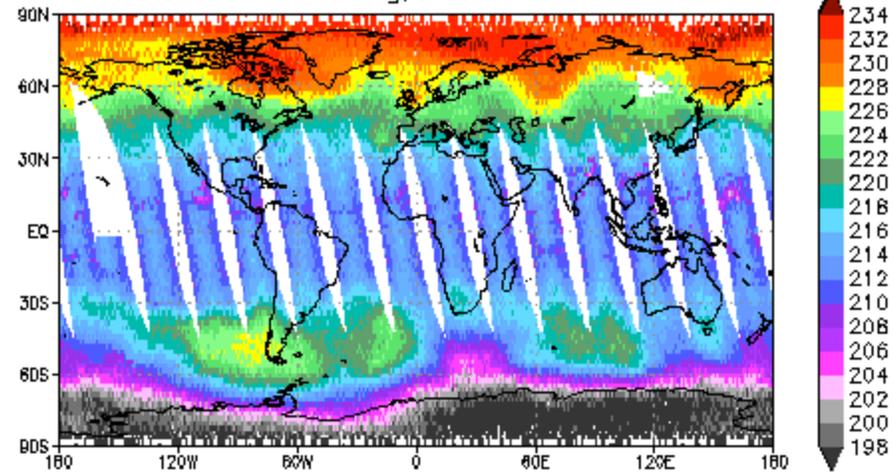


Descending sample=53020
True mean=274.753, True stdv=16.8364

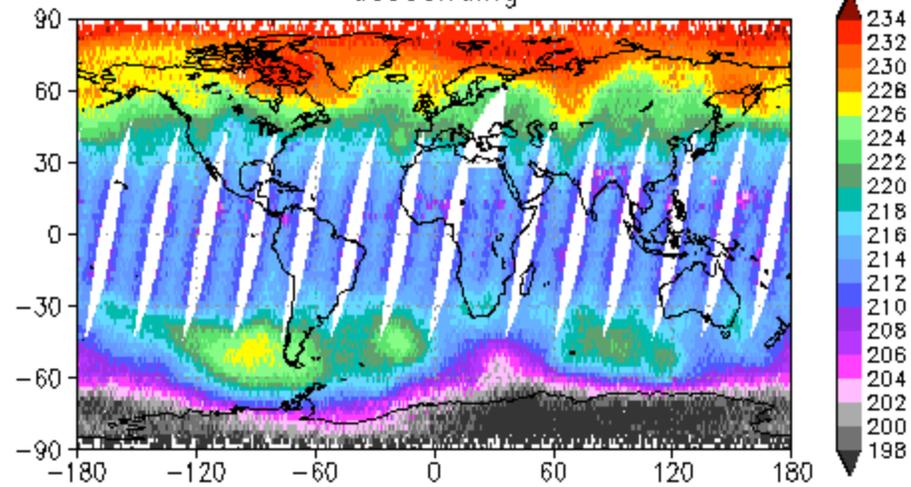




airs [694.6cm⁻¹]
ascending, 20JUL2002



descending

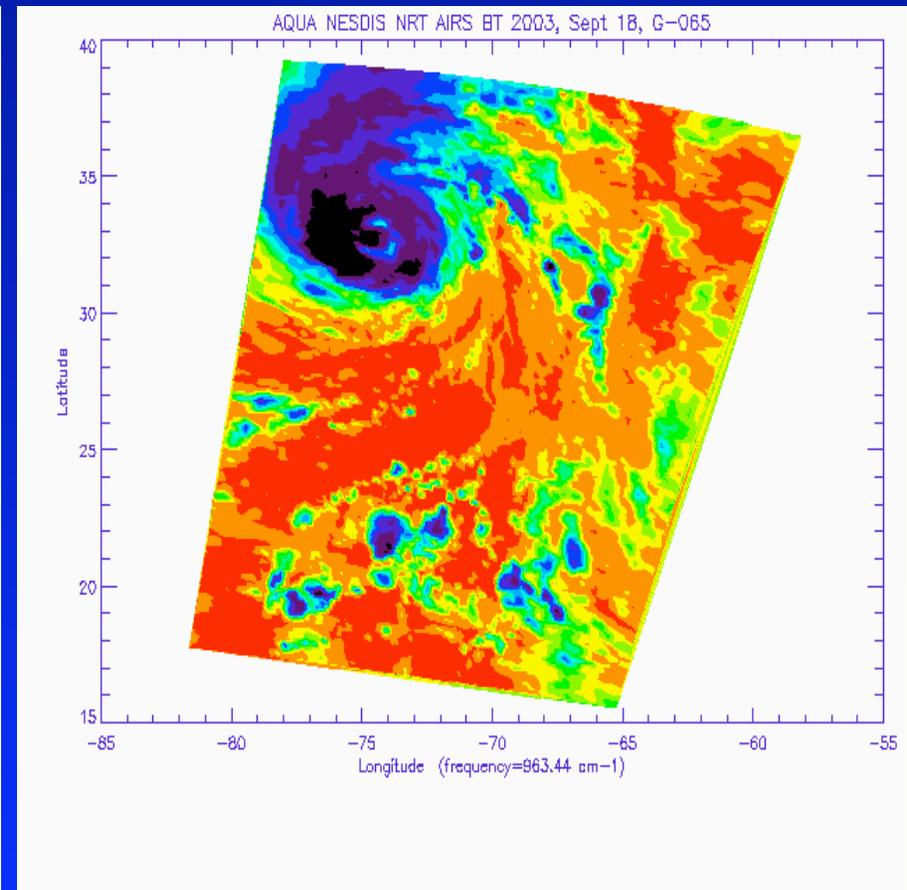
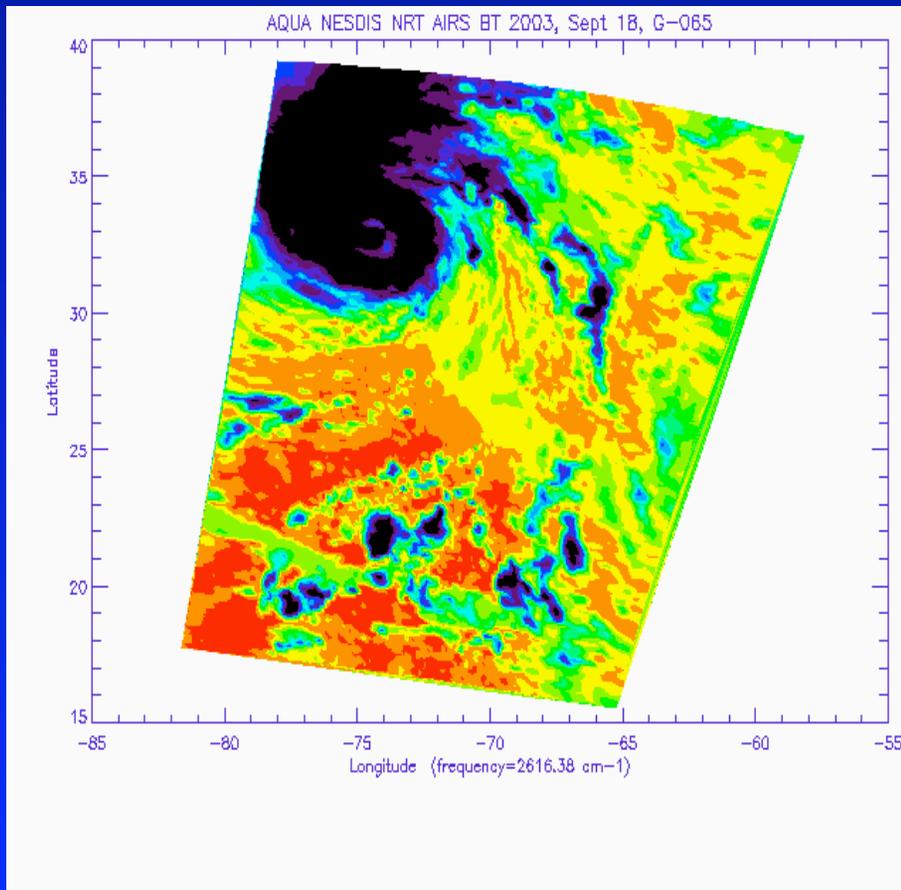




Isabel observed from AIRS

2616 cm-1

964 cm-1

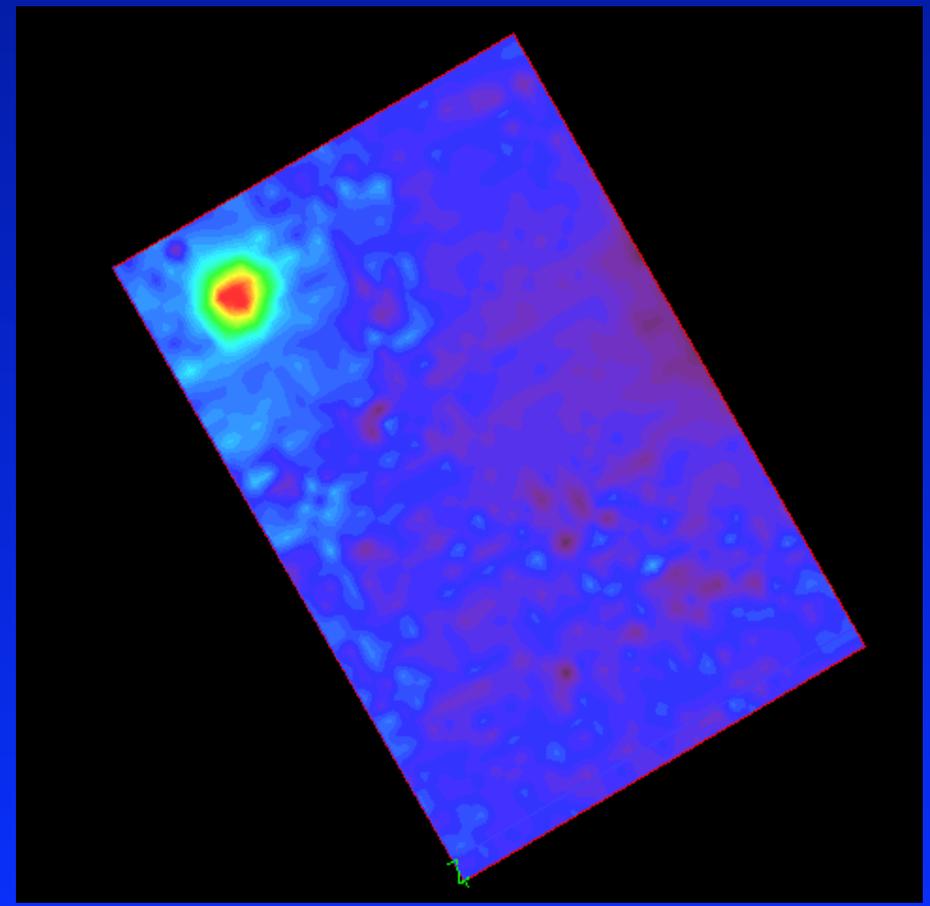
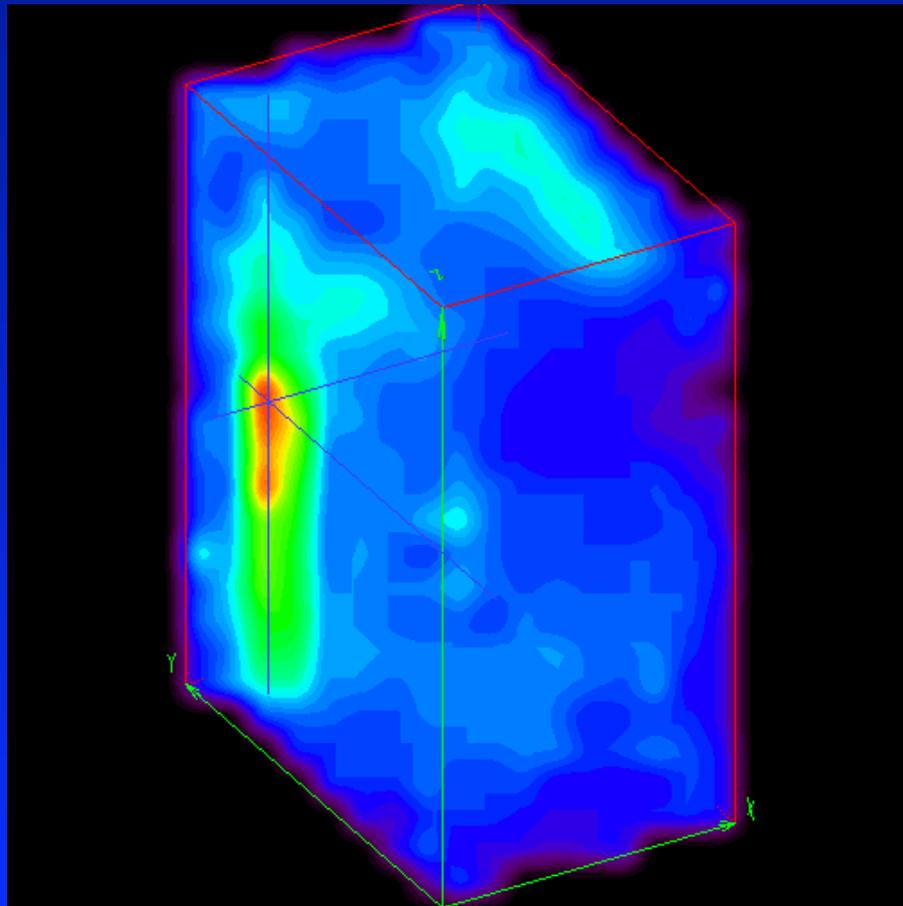


**Temperature Anomaly Retrieved from AIRS, Sept 13,
2003, Granule 171, Max. Anomaly=16.25K
Isabel, Category 4/5**



Surface to 80 mb

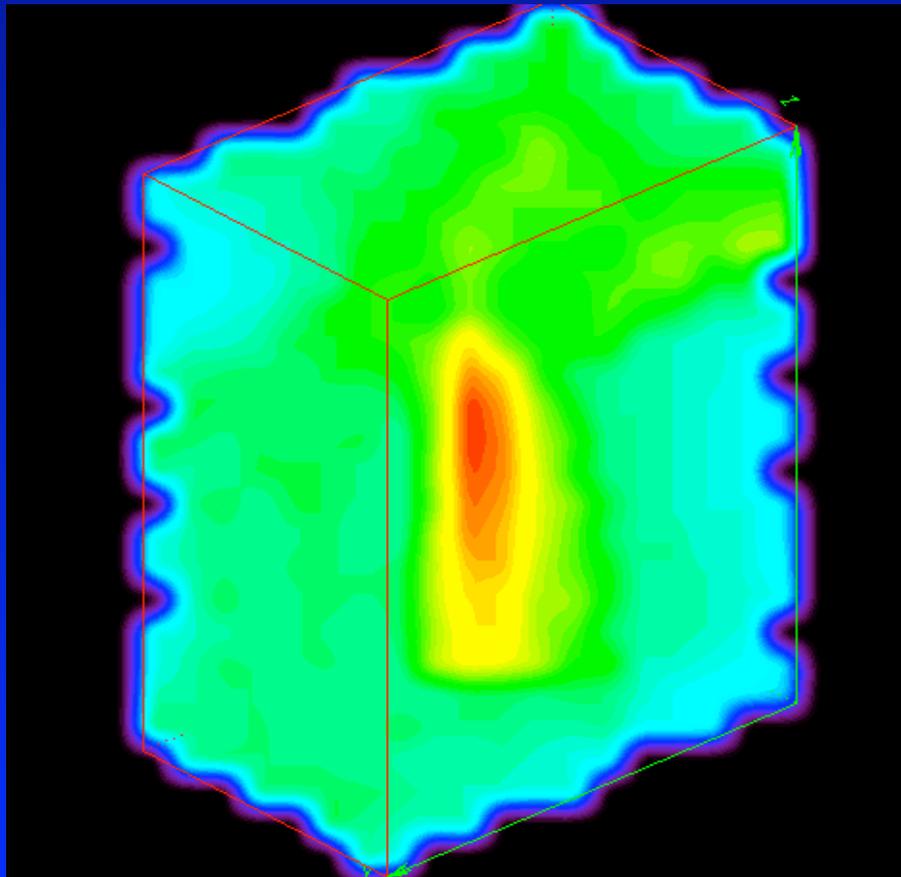
425 mb



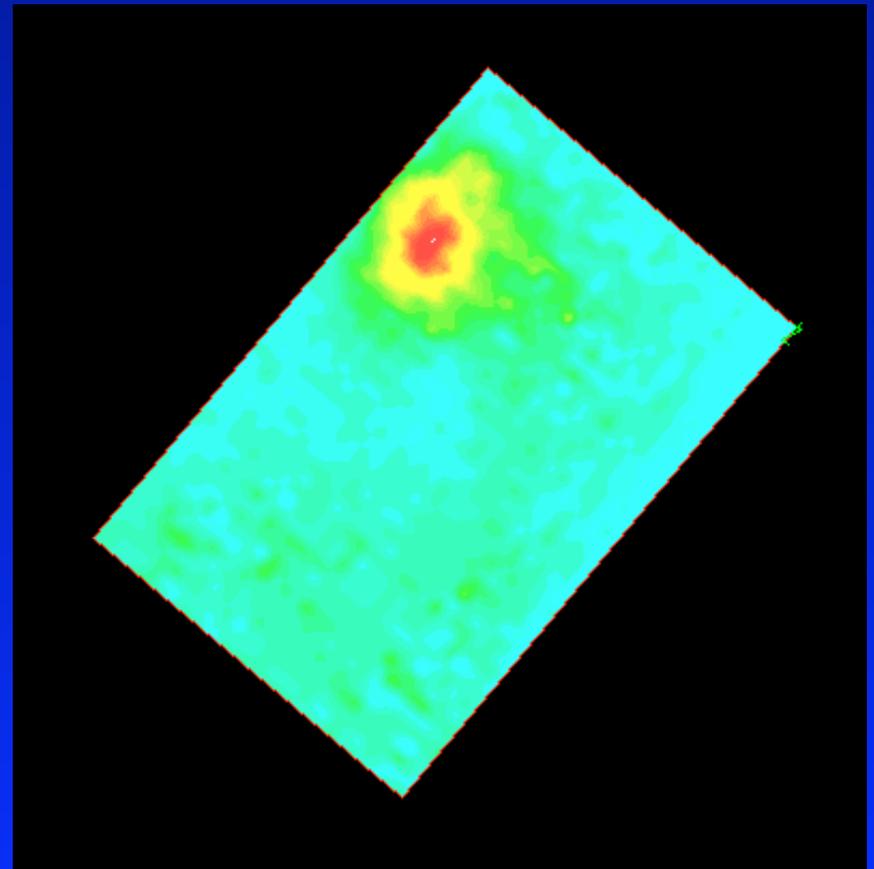
**Temperature Anomaly Retrieved from AIRS, Sept 18,
2003, Granule 65, Max. Anomaly=13.45K
Isabel, Category 2**



Surface to 80 mb



400 mb



Scientific Investigations / Validation



- Require more sophisticated tools.
- Tools have been developed for GOES - VIS-5D.
- We need a set of tools that allows us to dive into the data and observe the data in a way that is consistent with our imagination.
- Recommend that we develop a science and technology roadmap to achieve a state of the art visualization capability.